

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

In re Application of: :

Applicants: Aust et al. : Group Art Unit: Unassigned

Serial No.: Unassigned : Examiner: Unassigned

Filed: December 14, 2001 :

For: DYNAMIC MEASUREMENT OF COMMUNICATION CHANNEL  
CHARACTERISTICS USING DIRECT SEQUENCE SPREAD SPECTRUM  
(DSSS) SYSTEMS, METHODS AND PROGRAM PRODUCTS

**BOX PATENT APPLICATIONS**

Commissioner of Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Please replace the designated portions of the above-identified application prior to examination in order to correct some minor informalities as follows:

**IN THE SPECIFICATION:**

Page 1, first paragraph, which begins at line 13 and continuing to page 2, lines 1-2, replace as follows:

A common problem in communication system is improving data transmission reliability between sending and receiving stations. Data transmissions are subject to bandwidth limitations, propagation impairments, noise and other factors. A communication channel which includes means to perform on-the-fly analysis to measure and adjust the channel characteristics for improved reliability would solve a long-standing problem in communication systems. One communication system which measures communication characteristics during transmission is a Direct Spread Spectrum System (DSSS) described in the text Wireless LANS: Implementing

Interoperable networks by J. Geir, published by Macmillan Technical Publishing, 1999 at pages 47 –49, 67-68 (ISBN 1-57870-081-7). The measurement is taken for purposes of signal acquisition in synchronizing the Pseudo Noise (PN) codes at the sending and receiving stations. What is needed in the art is a DSSS system which enables the reliability of data transmission in a communication channel to be judged and the transmission adjusted accordingly for improved signal reliability.

**IN THE CLAIMS:**

Claims 3 and 19 have been REPLACED as follows:

3. The method of Claim 1 or 2 further comprising the steps of:
- (h) adjusting the frequency of the carrier to frequencies relevant for the transmission of the data information content; and
  - (i) and measuring the correlation value for each carrier frequency, where the correlation value vs. frequency is a measure for the frequency dependent loss of the channel.
19. The medium of Claim 17 or 18 further comprising:
- (h) program instructions adjusting the frequency of the carrier to frequencies relevant for the transmission of the data information content; and
  - (i) program instructions measuring the correlation value for each carrier frequency, where the correlation value vs. frequency is a measure for the frequency dependent loss of the channel.

**REMARKS**

The above-identified changes are requested prior to examination in order to correct minor informalities. No new matter has been introduced. In compliance with 37 C.F.R. § 1.121, Attachment A, showing a mark-up version of the changes made to the specification and claims by the current Amendment is attached hereto.

The Commissioner is hereby authorized to charge any additional fees which may be required for the timely consideration of this amendment under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to IBM Corporation's Deposit Account No. \_\_\_\_\_, Order No. \_\_\_\_\_.

Respectfully submitted,  
MORGAN & FINNEGAN, L.L.P.

Dated: December 14, 2001

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**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

In re Application of: :

Applicants: Aust et al. : Group Art Unit: Unassigned

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**ATTACHMENT A – SHOWING MARK-UP OF CHANGES**

Sir:

**IN THE SPECIFICATION:**

Page 1, first paragraph, which begins at line 13 and continuing to page 2, lines 1-2, has been AMENDED as follows:

A common problem in communication system is improving data transmission reliability between sending and receiving stations. Data transmissions are subject to bandwidth limitations, propagation impairments, noise and other factors. A communication channel which includes means to perform on-the-fly analysis to measure and adjust the channel characteristics for improved reliability would solve a long-standing problem in communication systems. One communication system which measures communication characteristics during transmission is a Direct Spread Spectrum System (DSSS) described in the text Wireless LANS: Implementing Interoperable networks by J. Geir, published by Macmillan Technical Publishing, 1999 at pages 47 –49, 67-68 [(ISBN 98-85498)] (ISBN 1-57870-081-7). The measurement is taken for

purposes of signal acquisition in synchronizing the Pseudo Noise (PN) codes at the sending and receiving stations. What is needed in the art is a DSSS system which enables the reliability of data transmission in a communication channel to be judged and the transmission adjusted accordingly for improved signal reliability.

**IN THE CLAIMS:**

Claims 3 and 19 have been AMENDED as follows:

3. The method of Claim 1 **[and] or** 2 further comprising the steps of:
- (h) adjusting the frequency of the carrier to frequencies relevant for the transmission of the data information content; and
  - (i) and measuring the correlation value for each carrier frequency, where the correlation value vs. frequency is a measure for the frequency dependent loss of the channel.
19. The medium of Claim 17 **[and] or** 18 further comprising:
- (h) program instructions adjusting the frequency of the carrier to frequencies relevant for the transmission of the data information content; and
  - (i) program instructions measuring the correlation value for each carrier frequency, where the correlation value vs. frequency is a measure for the frequency dependent loss of the channel.